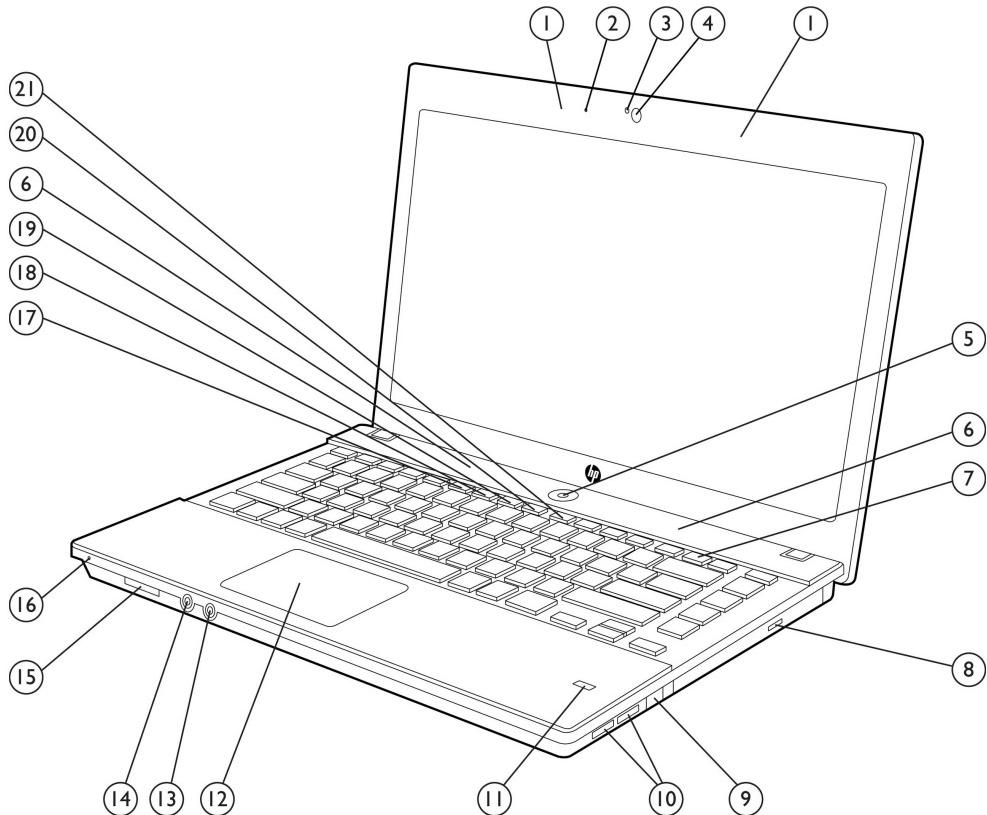
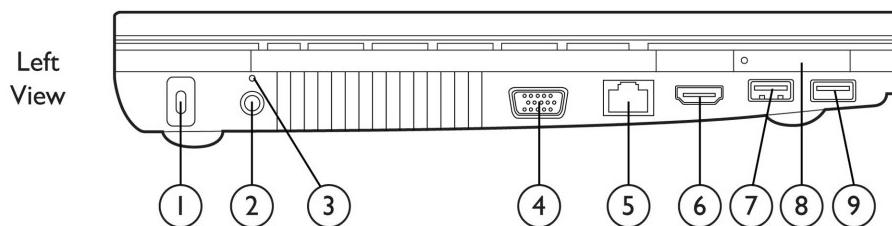


Overview



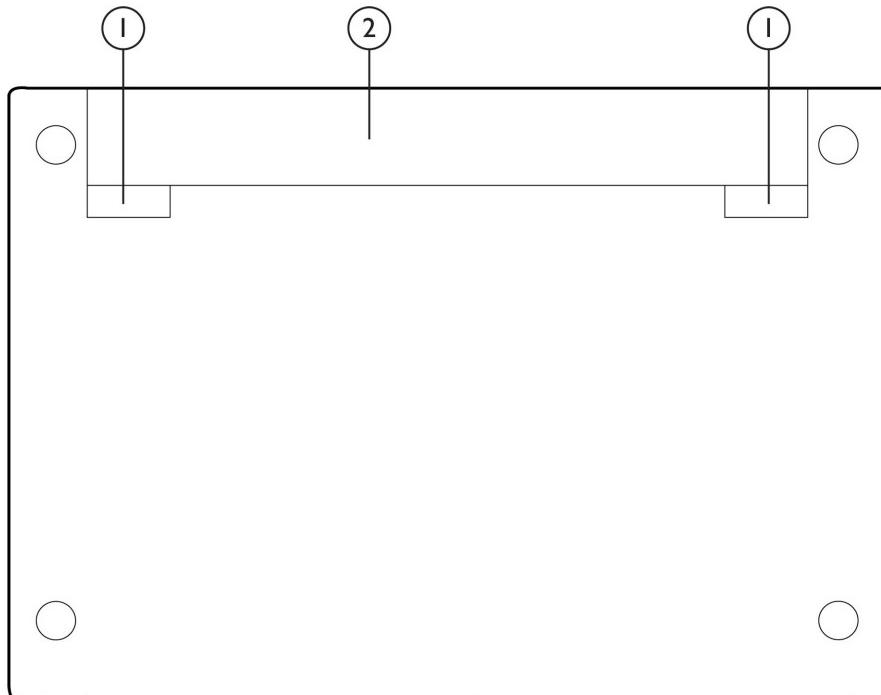
- 1. WLAN antennas
- 2. Integrated microphone
- 3. Webcam LED (works with optional webcam)
- 4. Optional 2 MP webcam
- 5. Power button with LED indicator
- 6. Stereo speakers
- 7. Wireless switch with LED indicator
- 8. Optical drive (select models)
- 9. Optional RJ-11/modem port
- 10. (2) USB 2.0 ports
- 11. Optional HP Fingerprint Sensor
- 12. ClickPad with left and right ClickPad buttons
- 13. Stereo microphone in
- 14. Stereo headphone/line out
- 15. Media Card Reader
- 16. Hard drive activity LED indicator
- 17. HP QuickLook 3 button with LED indicator
- 18. HP QuickWeb button with LED indicator
- 19. Volume mute button
- 20. Volume down button
- 21. Volume up button



- 1. Kensington Lock slot
- 2. Power connector
- 6. HDMI port
- 7. Combo eSATA/USB port

Overview

3. Battery charging LED indicator
4. VGA connector (external monitor/projector)
5. RJ-45/Ethernet port
8. ExpressCard/34 slot
9. USB 2.0 port



BottomView

1. Battery release latches

2. Battery bay

At A Glance

- Genuine Windows 7 versions, SUSE Linux
- Thin, lightweight design with brushed aluminum finish for durability and style
- Full-sized spill-resistant keyboard
- VISION Pro Technology from AMD
- AMD Phenom™ II Quad-Core Mobile Processor, AMD Turion™ II Dual-Core Mobile Processor, AMD Athlon™ II Dual-Core Processor for Notebook PCs
- ATI Mobility Radeon HD 530v discrete graphics or HD 5470 or HD 6370 discrete graphics
- Optional HP Fingerprint Sensor for single sign-on
- HP Face Recognition for HP ProtectTools for easy logins using the optional integrated 2 MP webcam
- Choice of 9-cell or 6-cell battery to customize weight and run-time to your needs
- Corel Home Office productivity suite for word processing, spreadsheets, and presentations (trial version)
- ArcSoft TotalMedia Suite for playing, creating, and editing video and audio files
- New keyboard function keys for play, rewind, and fast-forward of video and audio files
- HP DayStarter (calendar display while Windows starts), HP QuickLook 3 (quick access to e-mail, calendar, contacts and tasks), HP QuickWeb
- HP Power Assistant to conserve power, increase battery run-time, monitor power needs, report workforce power consumption
- HP Connection Manager 3.1
- Flexible wireless connectivity options:

Overview

- Integrated Broadcom 802.11 b/g/n wireless LAN module
- Optional Bluetooth® v2.1
- Widescreen LED-backlit HD display with 16:9 aspect ratio, BrightView optional
HP ProBook 4425s: 14.0-inch diagonal
- Enhanced security features including HP ProtectTools with Central Management, optional HP Fingerprint Sensor, HP Face Recognition, Computrace LoJack Pro ready, HP SpareKey, HP Disk Sanitizer, optional HP Privacy Filter
- HDMI port for connecting to high-resolution displays; combo eSATA/USB port

Standard Features (availability may vary by country)

Processors	AMD Phenom II Quad-Core Mobile Processor P920 (1.6 GHz, 2MB L2 cache) AMD Turion II Dual-Core Mobile Processor P520 (2.3 GHz, 2MB L2 cache) AMD Athlon II Dual-Core Processor P320 (2.1 GHz, 1MB L2 cache) NOTE: Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode. * Intel's numbering is not a measurement of higher performance.
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Operating System	Preinstalled	Genuine Windows 7 Professional Edition 32* Genuine Windows 7 Professional Edition 64* Genuine Windows 7 Home Premium Edition 32* Genuine Windows 7 Home Premium Edition 64* Genuine Windows 7 Home Basic Edition 32* Genuine Windows 7 Starter 32* SUSE Linux Enterprise Desktop 11
	Certified	SUSE Linux Enterprise Desktop 11

* System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality.
See: <http://www.microsoft.com/windows/windows-7/> for details.

** Certain Windows Vista product features require advanced or additional hardware. See: <http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx> and <http://www.microsoft.com/windowsvista/getready/capable.mspx> for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: <http://www.windowsvista.com/upgradeadvisor>.

Chipset	AMD M880G chipset
Graphics	<p>Integrated graphics: ATI Mobility Radeon HD 4250 graphics controller with shared video memory Microsoft DirectX 10.1 capable</p> <p>Discrete graphics: ATI Mobility Radeon HD 530v graphics controller with 512 MB dedicated video memory Microsoft DirectX 10.1 capable ATI Mobility Radeon HD 5470 graphics controller with 512 MB dedicated video memory Microsoft DirectX 11 capable ATI Mobility Radeon HD 6370 graphics controller with 1 GB dedicated video memory Microsoft DirectX 11 capable</p>

Standard Features (availability may vary by country)

Display	Internal	HP ProBook 4425s: 14.0-inch diagonal LED-backlit HD anti-glare (1366 x 768 resolution) 14.0-inch diagonal LED-backlit HD BrightView (1366 x 768 resolution)
	External	Optional HP Privacy Filter Up to 32-bit per pixel color depth VGA port supports resolutions up to 2560 x 1440 at 75 Hz HDMI port supports direct connection to high-definition displays with up to 1920 x 1080 resolution and 7-channel audio with one convenient cable (not included). NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings.

Memory	Standard	DDR3 PC3-8500 SDRAM (1066 MHz)* Two SODIMM slots supporting dual-channel memory 1024 MB, 2048 MB, and 4096 SODIMMs
	Maximum Dual-channel	Upgradeable to 8192 MB with 4096 MB SODIMMs in slots 1 and 2 Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

* Memory speed is processor dependent.

NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Full availability of 4 GB or more of memory requires a Windows 64-bit operating system or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

Communications	Realtek Ethernet (10/100/1000 NIC)* Optional 56K V.92 modem** * The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required. ** Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.
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Standard Features (availability may vary by country)

Wireless Devices	Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards.. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN and wireless WAN options.
All 802.11 integrated wireless LAN options	Wi-Fi certified* Wired Equivalent Privacy (WEP) support up to 128-bit keys Wi-Fi Protected Access (WPA) and WPA2 support 802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP Advanced Encryption Standard (AES) support Dual antennas integrated in the display enclosure
Broadcom 4313GN 802.11 b/g/n WiFi Adapter	Integrated support for 802.11 b, g, and n Cisco Compatible Extensions support Up to 300 mbps data rate
HP Integrated Module with Bluetooth Wireless Technology	Bluetooth Specification v2.1 compliant Works with a wide range of Bluetooth devices

Keyboard

The HP spill-resistant keyboard is designed using a thin layer of Mylar film under the keyboard and a drain system that funnels fluid through a hole in the bottom of the notebook. This minimizes the risk of damage to sensitive components underneath. The 101/102-key compatible keyboard features a full-pitch key layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, full separate numeric keypad, and 12 function keys. US and International key layouts are available. Other features include hotkeys for instant access to power conservation and brightness, and 19.05 x 19.05 mm key pitch (center-to-center spacing).

Pointing device

ClickPad with gestures support:
Two-finger scroll, zoom, pinch and pivot rotate, and three finger flick

NOTE: Gestures not available for Linux.

Expansion card slots

ExpressCard/34 slot Supports ExpressCard/34 (34 mm x 75 mm x 5 mm) card sizes
Media Card Reader Supports SD (Secure Digital), MMC (MultiMedia Card), Memory Stick, Memory Stick Pro, Memory Stick Duo*, xD-Picture card

* Memory Stick Duo Adapters are required and sold separately. Inserting a Memory Stick Duo Card directly into your notebook could damage the memory card and/or notebook.

Standard Features (availability may vary by country)

Storage	Internal Storage Device	250/320/500 GB 7200 rpm SMART SATA II Hard Drive 640 GB 5400 rpm SMART SATA II Hard Drive
NOTE: Up to 15 GB is reserved for the system recovery software.		
HP 3D DriveGuard (Windows models only)	The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is detected.	
Fixed optical drives DVD+/-RW SuperMulti DL LightScribe Drive		
<hr/>		
Interfaces	VGA	One
	HDMI	One
	Stereo microphone in	One
	Stereo headphone/line out	One
	Power connector	One
	RJ-11/modem (optional)	One
	RJ-45/Ethernet	One
	Combo eSATA/USB 2.0	One
	USB 2.0	Three
	LED status indicators	Eight
<hr/>		
Audio/Visual	HD audio (HP Premier Sound) Integrated stereo speakers Integrated digital microphone Stereo headphone/line out Stereo microphone in	
	Optional 2 MP webcam	
	<ul style="list-style-type: none">Supports videoconferencing and still image captureImproved quality for video streaming and still image capture (1600x1200 resolution)Up to 30 frames/secFixed focus lens16-bit true color (camera sensor up to UXGA resolution)	

Standard Features (availability may vary by country)

Software

Preinstalled software with Windows operating system	HP Recovery Manager (available with Windows 7 only) HP Support Assistant (available with Windows only) HP ProtectTools Security Manager HP Face Recognition HP QuickLaunch Buttons Software HP QuickLook 3 HP QuickWeb HP Power Assistant HP Connection Manager 3.1 HP Wireless Assistant HP Day Starter Corel Home Office productivity suite 60-day trial Roxio Creator Business (select models) ArcSoft Total Media Suite Antivirus software (may vary by country)* Microsoft Office 2010 preloaded (purchase of a Product Key required to activate a full Office 2010 suite)* Norton Online Backup trial HP Webcam Software (select models) Skype WinZip 12 trial
Additional software available from the web	HP SoftPaq Download Manager

* Internet access required. May be Norton or McAfee antivirus software. First 60 days included. Subscription required for live updates afterwards.

** Microsoft Office 2010 Preloaded includes reduced functionality versions of Word and Excel. Purchase of Product Key required to activate full Office 2010 suite available at participating resellers/retailers and <http://www.office.com>.

HP Recovery Manager

Models shipped with Windows 7 or Windows Vista include HP Recovery Manager. HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 15 GB of the hard drive is reserved for the system recovery software.

Standard Features (availability may vary by country)

Security

Standard Features

HP ProtectTools Security Manager
Face Recognition for HP ProtectTools
One Step Login
Enhanced Pre-Boot Security
HP SpareKey
HP Disk Sanitizer
Setup Password
Kensington Lock Slot
Support for Computrace* LoJack Pro for HP ProtectTools

Optional Features

HP Fingerprint Sensor
HP Privacy Filter

* The Computrace agent is shipped turned off, and must be activated by customers when they purchase a subscription with terms ranging from one to five years.

For more information on HP security solutions refer to: <http://www.hp.com/go/security>.

HP ProtectTools Security Manager with Central Management

HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. The following modules are available on the hard drive (also downloadable from the web) and can be configured in Software Setup:

- Credential Manager for HP ProtectTools
- Device Access Manager for HP ProtectTools
- Drive Encryption for HP ProtectTools
- File Sanitizer for HP ProtectTools
- Privacy Manager for HP ProtectTools (Chat & Sign)
- Embedded Security for HP ProtectTools
- Computrace LoJack Pro for HP ProtectTools

HP ProtectTools is now capable of being centrally managed from a single control point. HP ProtectTools is management ready out of the box, in partnership with Digital Persona, and provides features that customers expect from a centrally managed security solution, such as user provisioning, credential reset, and system and network revocation. Central Management is available in two feature levels:

- Digital Persona Pro Enterprise: Designed for environments with Active Directory. For large businesses, as well as smaller businesses utilizing an active directory based infrastructure. Gives IT Managers the ability to create role based security policies, provision users, and create login policies based on passwords, biometrics or smart cards. Management features also include remote credential recovery in case the user forgets the password, loses the smart card, or cannot use the fingerprint reader for any reason. In addition, advanced auditing capabilities are also built in.
- Digital Persona Workgroup Manager: Designed for environments without Active Directory. This option can be used by smaller businesses as well as workgroups within large organizations. Workgroup Manager offers features similar to Digital Persona Pro Enterprise, but without active directory integration. Workgroup activation is built into HP ProtectTools, and activation of up to 5 seats is completely free.

Standard Features (availability may vary by country)

Power Supply	Models with integrated graphics: External 65-watt Smart AC adapter 6-foot (1.8-meter) power cord included; total length including external AC adapter is 12 feet (3.66 meter) HP Fast Charge*
* HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off. HP Fast Charge does not apply to the HP 9-cell battery.	

Battery	Primary battery	HP 9-cell (93 WHr) Li-Ion battery HP 6-cell (47 WHr) Li-Ion battery
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Battery Life	Configurations with integrated graphics
	HP ProBook 4425s
	9-cell battery Up to 8 hours
	6-cell battery Up to 4 hours

NOTE: Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See MobileMark07 battery benchmark www.bapco.com/products/mobilemark2007 for additional details.

System Standby Time	Up to TBD week
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Power Conservation	Supports enhanced Intel SpeedStep technology (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode) ATI PowerPlay technology Hibernation Standby ACPI compliance
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Service and Support	HP Services offers limited 1-year warranty depending on country; 1-year limited warranty on primary battery. Warranty upgrades are also available. HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/lookuptool . Additional HP Care Pack Services information by product is available at: http://www.hp.com/hps/carepack . NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details. http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp .
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Options (availability may vary by country)

Memory	HP 1 GB (DDR3 1333 MHz) SODIMM HP 2 GB (DDR3 1333 MHz) SODIMM HP 4 GB (DDR3 1333 MHz) SODIMM	AT911AA AT912AA AT913AA
Storage	HP 250 GB USB Pocket Media Hard Drive HP External USB CD/DVD R/RW Drive	FE477AA FS943AA
Expansion	HP Basic Adjustable Stand HP USB 2.0 Docking Station HP Essential USB 2.0 Port Replicator HP Dual Hinge Notebook Stand HP Display & Notebook Stand HP Adjustable Display Stand HP Adjustable Dual Display Stand	AL549AA FQ834AA AQ731AA AW661AA AW662AA AW663AA AW664AA
Power	65W Smart AC Adapter 90W Smart AC/Auto/Air Combo Adapter HP 65W Slim Adapter HP Smart 65W Travel AC Adapter 90W Smart AC Adapter HP 6-Cell Li-Ion Primary Battery	ED494AA AJ652AA AX727AA AU155AA ED495AA BQ350AA
Carrying Cases	HP Deluxe Nylon Backpack HP Value Nylon Case HP Universal Nylon Case HP Executive Leather Case HP Deluxe Roller Case HP Basic Backpack HP Basic Messenger HP Basic Carrying Case HP Professional Series Carrying Case HP Professional Series Backpack HP Professional Series Messenger HP Professional Series Designer Tote HP Professional Series Slip Case HP Elite Series Designer Tote HP Elite Series Quick Case	RR317AA RR314AA RR315AA RR316AA GD405AA AM863AA AP355AA AJ078AA AT886AA AT887AA AT888AA AT889AA AT890AA AT891AA AT892AA



Options (availability may vary by country)

Security	HP/Kensington MicroSaver Security Lock HP Notebook Cable Lock	PC766A AY475AA
Input/Output Devices	HP USB/PS2 Optical 2-Button Scroll Mouse HP USB Keyboard & Mouse Bundle HP USB Optical Travel Mouse HP Wireless Mouse HP BT Headset HP Mobile Audio Speakers HP Mobile Productivity Bundle HP Notebook Companion Projector HP Special Edition Optical Mouse HP Premium Autofocus Webcam Premium Digital Headset HP Promo USB Graphics Adapter	DC369A RC465AA RH304AA AR085AA AR084AA FS944AA AQ729AA AX325AA AU094AA KQ245AA KJ270AA NL571AT
Miscellaneous	HP Notebook Projection Companion HP 2 Megapixel Auto Focus Webcam HP Digital Premium Stereo Headset	AX325AA KQ245AA KJ270AA



Memory

DDR3 PC3-10600 SDRAM (1066/1333MHz)*

Two SODIMM slots supporting dual-channel memory

SODIMM sizes supported: 1024 MB, 2048 MB and 4096 MB

Standard Memory

- 1024 MB (1024 MB x 1)
- 2048 MB (2048 MB x 1)
- 2048 MB (1024 MB x 2)
- 3072 MB (2048 MB + 1024 MB)
- 4096 MB (2048 MB x 2)
- 4096 MB (4096 MB x 1)

Optional Memory Upgrades

Support for up to 8192 MB of memory with the installation of optional DDR3 SDRAM memory kits. Both memory slots are user accessible. Please refer to the Hardware and Software Guide for installation procedures. Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

Up to	Slot 1	Slot 2
2048 MB	1024 MB	1024 MB
2048 MB	2048 MB	empty
3072 MB	2048 MB	1024 MB
4096 MB	2048 MB	2048 MB
4096 MB	4096 MB	empty
8192 MB	4096 MB	4096 MB

* Memory speed is processor dependent.

NOTE: This chart does not represent all possible memory configurations. Due to the non-industry standard nature of some third-party memory modules, we strongly recommend using only HP branded memory modules to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Availability of 4 GB or more of memory requires a Windows 64-bit operating system or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

Memory Upgrades

HP 1 GB (DDR3 1333 MHz) SODIMM
HP 2 GB (DDR3 1333 MHz) SODIMM
HP 4 GB (DDR3 1333 MHz) SODIMM

AT911AA
AT912AA
AT913AA



Storage

Removable Media Drive Support

Quantity Supported	Drive Bay
DVD+/-RW SuperMulti DL One	Fixed optical drive bay
LightScribe Drive	

Internal Storage Device

Quantity Supported	Drive Bay
Hard Drives	
500 GB 7200 rpm SMART One	Dedicated hard drive bay
SATA II Hard Drive	
320 GB 7200 rpm SMART One	Dedicated hard drive bay
SATA II Hard Drive	
250 GB 7200 rpm SMART One	Dedicated hard drive bay
SATA II Hard Drive	
640 GB 5400 rpm SMART One	Dedicated hard drive bay
SATA II Hard Drive	

Technical Specifications

System Unit	Dimensions (HxWxD)	HP ProBook 4425s: 1.07 in (at front) x 13.23 in x 9.15 in 27.0 mm (at front) x 336.0 mm x 232.4 mm
Weight	HP ProBook 4425s: Starting at 4.71 lb (2.14 kg) without optical drive or 5.0 lb (2.27 kg) with optical drive	
NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, no optical drive. Weight varies by configuration and components.		
Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
	Average Operating Power	with integrated graphics: 18.16 W with discrete graphics: 20.34 W
	Max Operating Power	< 90 W or < 65W
Temperature	Operating	32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical)
	Non-operating	-4° to 140° F (-20° to 60° C)
Relative Humidity	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	Operating	125 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	Operating	-50 to 10,000 ft (-15.24 to 3,048 m)
	Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)
Industry Standard Certifications	UL	Yes
	CSA	Yes
	FCC Compliance	Yes
	ENERGY STAR®	Select models*
	EPEAT	Registered TBD in United States**
	ICES	Yes
	Australia / NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	MIC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	BNCI or BELUS	Yes
	CIT	Yes
	GOST	Yes



Technical Specifications

Saudi Arabian Compliance (ICCP)	Yes
SABS	Yes
UKRSERTCOMPUTER	Yes

* Configurations of the HP ProBook 4425s and HP Probook 4525s that are ENERGY STAR qualified are identified as HP ProBook 4425s ENERGY STAR and HP Probook 4525s ENERGY STAR on HP websites and on www.energystar.gov.

** EPEAT registration varies by country. See www.epeat.net for registration status by country. EPEAT status listed above applies to U.S.

NOTE: For accessibility information on HP products, please visit: <http://www.hp.com/accessibility>.

HP 65W Smart AC Adapter	Dimensions	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)
	Weight	0.62 lb (280 g)
	Input	100 to 240 VAC
	Input Efficiency	87% min at 115 VAC
	Input frequency range	47 to 63 Hz
	Input AC current	1.7 A at 90 VAC, 0.85 A at 180 VAC
	Output	Output power
		65W
		DC output
		18.5V
		Hold-up time
		5 msec at 115 VAC input
		Output current limit
		<11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords
	Environmental Design	Operating temperature 32° to 104° F (0° to 40° C)
		Non-operating (storage) temperature -4° to 149° F (-20° to 65° C)
		Altitude 0 to 10,000 ft (0 to 3,048 m)
		Humidity 20% to 80%
		Storage Humidity 10% to 90%
EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF - over 200,000 hours at 25°C ambient condition.	

NOTE: Unless otherwise noted, temperature limits listed in the following component specifications relate to the internal temperatures of these components and not to the environment in which the PC is operating.

Technical Specifications

9-Cell (93 Whr) Lithium-Ion battery	Dimensions (H x W x L)	0.8 x 2.9 x 8.3 in (2.0 x 7.3 x 21.0 cm)	
	Weight	1.07 lb (0.488 kg)	
	Cells/Type	9-cell Lithium-Ion	
	Energy	Watt-hour Capacity Operating (Charging) Operating (Discharging) Non-operating	93 Whr 32° to 113° F (0° to 45° C) 14° to 140° F (-10° to 60° C) -4° to 140° F (-20° to 60° C)
	Battery Re-Charge Time	System in OFF mode or Standby System ON	3 to 4 hours 4 to 6 hours (depending on system power consumption)

6-Cell (47 Whr) Lithium-Ion battery	Dimensions (H x W x L)	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)	
	Weight	0.659 lb (0.299 kg)	
	Cells/Type	6-cell Lithium-Ion	
	Energy	Watt-hour Capacity Operating (Charging) Operating (Discharging) Non-operating	47 Whr 32° to 113° F (0° to 45° C) 14° to 140° F (-10° to 60° C) -4° to 140° F (-20° to 60° C)
	Battery Re-Charge Time	System in OFF Mode or Standby System ON	2.5 hours 3 to 5 hours (depending on system power consumption)
		HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF

Displays



Technical Specifications

14.0-inch LED HD (1366 x 768) anti-glare	Active Area (W x H)	12.74 x 7.56 in (32.4 x 19.2 cm)
	Diagonal Size	14.0 in (35.6cm)
	Surface Treatment	Anti-glare
	Contrast Ratio	400:1 (typical)
	Refresh Rate	60 Hz
	Brightness	200 nit (typical)
	Pixel Resolution	Pitch 0.227 mm
		Format 1366 x 768
		Configuration RGB Stripe
	Backlight	LED
	PPI	112 ppi
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)

14.0-inch LED HD (1366 x 768) BrightView	Active Area (W x H)	12.16 x 6.85 in (30.9 x 17.4 cm)
	Diagonal Size	14.0 in (35.6cm)
	Surface Treatment	BrightView (glossy)
	Contrast Ratio	500:1 (typical)
	Refresh Rate	60 Hz
	Brightness	200 nit (typical)
	Pixel Resolution	Pitch 0.227 mm
		Format 1366 x 768
		Configuration RGB Stripe
	Backlight	LED
	PPI	112 ppi
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)

Internal Storage

Technical Specifications

500 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)
	Capacity	500 GB
	Height	0.37 in (9.5 mm)
	Width	2.75 in (70 mm)
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ
	Transfer Rate	Synchronous (maximum) 150 MB/s (Drive Capability)
	Seek Time	Single Track 1.5ms
(typical reads, including settling)	Average	11ms
	Maximum	22ms
	Rotational Speed	7200 rpm
	Logical Blocks	976,773,168
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]
	Features	ATA Security

320 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)
	Capacity	250 GB
	Height	0.37 in (9.5 mm) or on some models 0.28 in (7 mm)
	Width	2.75 in (70 mm)
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ
	Transfer Rate	Synchronous (maximum) 150 MB/s (Drive Capability)
	Seek Time	Single Track 1.5ms
(typical reads, including settling)	Average	11ms
	Maximum	22ms
	Rotational Speed	7200 rpm
	Logical Blocks	625,142,448
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]
	Features	ATA Security

Technical Specifications

250 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)
	Capacity	250 GB
	Height	0.37 in (9.5 mm) or on some models 0.28 in (7 mm)
	Width	2.75 in (70 mm)
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ
	Transfer Rate	Synchronous (maximum) 150 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track 1.5ms Average 11ms Maximum 22ms
	Rotational Speed	7200 rpm
	Logical Blocks	488,397,168
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]
	Features	ATA Security

Optical Drives

DVD+/-RW SuperMulti DL LightScribe Drive	Access Times	Random	< 150ms CD (typical) < 160 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM 8X DVD 24X CD-R 16X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 4X - DVD+R Dual Layer 4X - DVD-R Dual Layer 5X DVD-RAM	Up to 3,600 KB/s Up to 10,800 KB/s Up to 3,600 KB/s Up to 2,400 KB/s Up to 10,800 KB/s Up to 10,800 KB/s Up to 10,800 KB/s Up to 8100KB/s Up to 5,400 KB/s Up to 5,400 KB/s Up to 6,750 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
	Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, LightScribe	
	Max Media Capacity (read)	8.5 GB	
	Max Media Capacity (write)	8.5 GB	



Technical Specifications

Transport	Tray Loading
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Security

HP Fingerprint Sensor (optional)	Mobile Voltage Operation	3.0V-3.6V Single Supply
	Operating Temperature	32° – 158°F (0° – 70°C)
	Current Consumption @ 3.3V	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management
	High-Rate Image Capture	Up to 240 image frames /sec
	ESD Resistance	IEC 61000-4-2 Level 4 ($\pm 15\text{KV}$)
	Detection Matrix	192 x 16 Pixels 9.7 mm x 0.81 mm 500 ppi High-Resolution Images

Audio

Hardware	Implementation	IDT 92HD75B High Definition CODEC
	Touch-Sensitive Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes

Audio Output Quality	Frequency Response	20 Hz – 20 kHz
	Signal to Noise Ratio	>85 dB
	Total Harmonic Distortion	0.01%
	Noise Floor	-110 dB
	Play/Record Sampling Rate(s)	8 kHz – 48kHz
	DAC	16, 20 or 24-bit
	ADC	16 or 20-bit

Integrated Stereo Speakers	Power Rating	1.5 Watts
	Impedance	4 Ohms



Technical Specifications

Communications

Integrated Realtek RTL8151DH-GR 10/100/1000 NIC	Ethernet Features	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3z and 802.3ab; IEEE 802.3 clauses 34-42) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
	Power Management	ACPI compliant - multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
	Performance Features	TCP/IP/UDP Checksum Offload (configurable) Large send offload and Giant send offload Receiving Side Scaling
	Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status
	Interface	PCI Express 1.1 x1 to fully support ASPM L0s/L1 and CLKREQ
	NIC Device Driver Name	Realtek PCIe Gb Ethernet Family Controller

V.92 56K Data/Fax Modem	Form Factor	MDC 1.5 Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 data V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) Optional symbol rates: 2800, 3429 Asymmetric Symbol rates Synchronous primary channel data signaling rates: 3600, 31200



Technical Specifications

	Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251

Broadcom 4313GN 802.11b/g/n WiFi Adapter	Wireless LAN Standards IEEE 802.11b IEEE 802.11g IEEE 802.11n
	Interoperability Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Win7, Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band 2.4 GHz
	Data Rates 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5, 7.2, 13, 14.4, 19.5, 21.7, 26, 28.9, 39, 43.3, 52, 57.8, 58.5, 65, 72.2Mbps
	Frequency Support 20 MHz: 2.4 GHz bands
	Modulation Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security ¹ Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST.
	Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
	Sub-channels Multinational support with frequency bands and channels compliant to local regulations.



Technical Specifications

Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power (for CCK)²	17 dBm , nominal
Output Power (for OFDM; 15 dBm , nominal power varies by data rate)²	power varies by data rate ²
Power Consumption	Idle associated: 250 mW avg (CLKREQ enabled) Idle unassociated: 425 mW avg Transmit/Receive 20 MHz channel: 5.5 W (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity³	72.2 Mbps: -71dBm
Antenna type	High efficiency dual band antenna with spatial diversity, usually mounted in the display enclosure
Form Factor	PCI-Express Half-MiniCard
Weight	0.013 lb (6 g)
Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)
Operating Voltage	3.3v +/- 10%
Temperature	Operating 14° to 149° F (-10° to 65° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
Altitude	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
LED Activity	LED Off - Radio OFF; Solid LED On - Radio ON

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista and Win7.

HP Integrated Module with Bluetooth 2.1+EDR Wireless Technology	Bluetooth Specification	2.1+EDR Compliant
	Dimensions	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric



Technical Specifications

Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
Receiver Sensitivity	Better than -80 dBm at 0.1 % raw bit error rate
Power Consumption	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
Antenna	Internally integrated within module
Range	Up 33 ft (10 m)
Electrical Interface	USB 2.0 compliant
Bluetooth Software Supported	Microsoft Windows Plug and Play compliant Broadcom Bluetooth for Windows Microsoft Windows Bluetooth Software
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
Security	Full support of Bluetooth Security Provisions
Power Management	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
Certifications	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETSI 300 328, ETSI 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
Temperature	Operating -4° to 158° F (-20° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% Non-operating 5% to 95%
Altitude	Operating 15,000 ft (4,572 m) Non-operating 40,000 ft (12,192 m)
Bluetooth Profiles Supported	Serial Port Profile (SPP) ¹ Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) ^{1,2} Generic Object Exchange Profile (GOEP) ^{1,2} Object Push Profile (OPP) ^{1,2} File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) ^{1,2} Personal Area Networking Profile (PAN) ^{1,2} Human Interface Device Profile (HID) ^{1,2,3} FAX Profile (FAX) Basic Imaging Profile (BIP) ² Headset Profile (HSP) Hands Free Profile (HFP)



Technical Specifications

Advanced Audio Distribution Profile (A2DP)

1. indicates the profile is supported by Microsoft Windows XP SP2
2. indicates the profile is part of Windows Vista

Environmental Data

Eco-Label Certifications

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- US Energy Star
- IT ECO declaration
- EPEAT - Gold where HP registers commercial notebook products. See <http://www.epeat.net> for registration status in your country.

System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Convertible Mini tower Desktop model is based on a "Typically Configured Notebook"

Energy Consumption

	115 VAC	230 VAC	100 VAC
Normal Operation	10.73 W	10.81 W	10.71 W
Sleep (Energy Star low power mode)	0.67 W	0.70 W	0.66 W
Off	0.44 W	0.48 W	0.46 W

Heat Dissipation*

	115 VAC	230 VAC	100 VAC
Normal Operation	37 BTU/hr	37 BTU/hr	37 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	2 BTU/hr	2 BTU/hr	2 BTU/hr

* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)

System Fan Off	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	3.2	24.9
Fixed Disk (random writes)	3.2	29.3

System fan is usually off except when charging the battery

Batteries This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater than 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:

CR2032 (coin cell), Li-ion

6-cell high capacity Lithium-Ion battery (optional 8 cell available)



Technical Specifications

Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.

This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see www.epeat.net

Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 90% recycle-able when properly disposed of at end of life.

Packaging Materials

- External:
 - Corrugated Carton 412 g
 - Corrugated 326 g
- Internal:
 - Polyethylene low density 20 g
 - Molded Pulp 150 g
- The Corrugated Carton packaging material is made from 85% recycled content.
- The Molded Pulp packaging material is made from 90% recycled content.
- The Polyethylene low density packaging material is made from 85% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

Material Usage

This product does not contain any of the following substances in excess of



Technical Specifications

regulatory limits (for reference of these limits please refer to the HP General Specification of the Environment (http://www.hp.com/hpinfo/globalsustainability/environment/supplychain/gen_specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBDEs)
- Polybrominated Biphenyl Oxides (PBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) - except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Nickel finishes that release greater than 0.5 µgrams/cm²/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <http://www.hp.com/go/reuse-recycle> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/recyclers>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:
Global Citizenship Report
<http://www.hp.com/hpinfo/globalsustainability/gcreport/index.html>
Environment website
<http://www.hp.com/environment>
Eco-label certifications
<http://www.hp.com/hpinfo/globalsustainability/environment/productdesign/ecolabels.html>



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ISO 14001 certificates:

[http://www.hp.com/hpinfo/globalcitizenship/environment/operations/
envmanagement.html](http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html)

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